

IN THE CLAIMS:

1. (currently amended) A ~~€~~communication system comprising:
a plurality of terminals ~~which~~that are connected to an access network; ~~and;~~
~~the access network having~~
_____ said access network, having a transmission network, and an access node
connected to a connecting said transmission network and to a non-dedicated network
switch using a signaling protocol, the said access node including
_____ an access node switch coupled to said the network switch, and
_____ further including a plurality of network control elements,
_____ wherein the said access node switch controls controlling all of the access-
network specific switching without said network switch having to know a carrier
frequency allocated to a terminal coupled to a sub-network,
_____ the said network control elements include each including
_____ a network control switch; and
_____ a plurality of channel cluster modules, wherein the channel cluster
modules are each arranged for transmitting downstream signals on one, respective carrier
frequency, and are coupled to the a sub-network corresponding to a network control
node; and
_____ wherein the said transmission network comprises comprising a plurality of
sub-networks correspondingly coupled to the said network control elements and to the
plural terminals, said access node switch controlling all of the access-network-specific
switching without said access node switch having to know a carrier frequency allocated
to a terminal coupled to a sub-network of the plural sub-networks.

3. (currently amended) ~~€~~The communication system according to claim 1,
wherein the channel cluster modules comprise at least one downstream channel module.

4. (currently amended) ~~€~~The communication system according to claim 3,
wherein the channel cluster module comprises an upstream channel module.

5. (currently amended) ~~€~~The communication system according to claim 1, wherein a terminal of the plural terminals comprises signaling means for exchanging network layer control information with ~~the~~said network switch.

6. (currently amended) ~~The €~~communication system according to claim 1, wherein ~~the~~said network switch comprises proxy signaling means for deriving network layer control information from session layer and/or transport layer information exchanged between a terminal and ~~the~~said network switch.

7. (currently amended) An access node connectable to a transmission network, and to a non-dedicated network switch, the access node comprising:

an access node switch; and
~~_____ coupled to a plurality of network control elements coupled to said access node switch, wherein the~~said access node switch ~~is being~~ connectable to ~~the~~said network switch, ~~and the access node switch controls all of the access-network-specific switching without said network switch having to know a carrier frequency allocated to a terminal coupled to a sub-network, wherein the~~a network control elements comprises a network control switch and a plurality of channel cluster modules, ~~in that a network control node router is coupled to an access node router and to the channel cluster modules, and in that the channel cluster modules are arranged for transmitting downstream signals on one, respective carrier frequency and are connectable, correspondingly to a sub-networks of said transmission network, and the access node switch controls all of the access-network-specific switching without said access switch having to know a carrier frequency allocated to a terminal coupled to a sub-network of said sub-networks or responding to the network control node, and wherein the network control elements are connectable to a plurality of sub-networks.~~

8. (new) The system of claim 1, wherein said access node switch receives, from said network switch, a packet having a field that identifies a network control element of said network control elements and a carrier frequency of the respective carrier

frequencies, part of said field being replaced with an identifier of a route from said network control element to a destination terminal of said packet, said packet being transmitting with its field partly replaced for modulation of content of said packet onto the identified carrier frequency.

9. (new) The access node of claim 7, wherein said access node switch receives, from said network switch, a packet having a field that identifies a network control element of said network control elements and a carrier frequency of the respective carrier frequencies, said part of said field being replaced with an identifier of a route from said network control element to a destination terminal of said packet, said packet being transmitting with its field partly replaced for modulation of content of said packet onto the identified carrier frequency.

10. (new) A dedicated access node for connecting a non-dedicated network switch to a plurality of sub-networks of a transmission network, the plural sub-networks being respectively connectable to a plurality of terminals, said access node comprising:

an access node switch; and

a plurality of network control elements, said access node being configured to direct a signal from said network switch to a terminal of the plural terminals intended as a destination such that said network switch is relieved of knowing details of said access network that said network switch would otherwise need for directing said signal to the intended destination terminal.

11. (new) The access node of claim 10, further including a network control switch and a translation unit, said network control switch configured for routing said signal received from said access node switch, via said translation unit, to said terminal, without said access node switch having to know a carrier frequency allocated to said terminal.

12. (new) The access node of claim 11, wherein each of the plural network control elements includes a network control switch connecting the access node switch to

respective ones of the plural terminals, said network control switch for routing being one of the network control switches for said connecting, each of the network control switches being configured for switching said signal onto the respective one of predetermined carrier frequencies.

13. (new) The access node of claim 12, wherein a network control element of the plural network control elements further includes a plurality of channel cluster modules that connect the network control switch of said network control element to the corresponding said respective ones of the plural terminals, each of the plural channel cluster modules being arranged for transmitting downstream on a respective, single carrier frequency.

14. (new) The access node of claim 10, wherein said details are such that said network switch would have to be dedicated if not for said access node being configured to direct said signal from said network switch to said terminal.

15. (new) A communication system comprising the access node, the transmission network and the plural terminals of claim 10.

16. The system of claim 15, wherein a terminal of the plural terminals comprises signaling means for exchanging layer control information with said network switch, said control information being exchanged transparently between the signaling terminal and said network switch.

17. (new) The system of claim 15, further comprising an access network that includes said access node and said transmission network, wherein said network switch comprises a proxy signaling function for deriving network layer control information from at least one of session layer and transport layer information exchanged, over said access network, between a terminal of the plural terminals and said network switch.

18. (new) The system of claim 15, further including said network switch, wherein said network switch is connected to an external network, and is configured to set up a connection between said external network and said access node for a call by sending respective set-up messages to said external network and said access node in response to receipt, at said network node, of a request transmitted by one of the plural terminals by a transparent connection to said network switch.

19. (new) The system of claim 18, wherein said access node, in response to receiving the respective set-up message, reserves resources for the call and subsequently submits a set-up message downstream toward said one of the plural terminals.

20. (new) A method for configuring a communication system, comprising:
 providing a transmission network;
 providing a non-dedicated network switch;
 connecting, by means of a dedicated access node, said network switch to the transmission network, said access node including an access node switch and a plurality of network control elements;
 connecting, correspondingly, a plurality of sub-networks to the plural network control elements; and
 connecting, respectively, a plurality of terminals to the plural sub-networks, said access node being configured to direct a signal from said network switch to a terminal of the plural terminals intended as a destination, such that said network switch is relieved of knowing details of said access network that said network switch would otherwise need for directing said signal to the intended destination terminal.